T-1 3/4 (5mm) SOLID STATE LAMPS

L-53H BRIGHT RED
L-53I HIGH EFFICIENCY RED
L-53N PURE ORANGE
L-53PG PURE GREEN
L-53G GREEN
L-53E ORANGE
L-53Y YELLOW

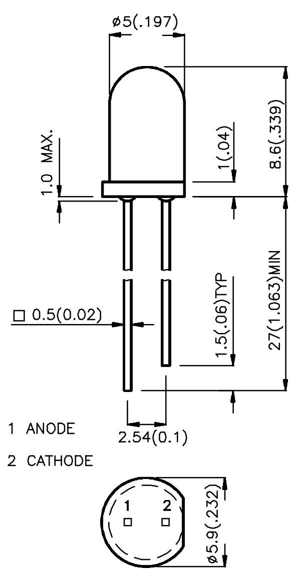
Features

- HIGH INTENSITY.
- LOW POWER CONSUMPTION.
- POPULAR T-1 3/4 DIAMETER PACKAGE.
- GENERAL PURPOSE LEADS.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.
- AVAILABLE ON TAPE AND REEL.

Description

The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.
The High Efficiency Red and Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.
The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.
The Pure Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Pure Orange Light Emitting Diode.
The Pure Green source color devices are made with Gallium Phosphide Pure Green Light Emitting Diode.

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subjected to change without notice.

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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 10 mA		Viewing Angle
			Min.	Typ.	2θ1/2
L-53HD	BRIGHT RED (GaP)	RED DIFFUSED	2	5	60°
L-53ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	12	30	60°
L-53IT		RED TRANS.	30	80	30°
L-53EC		WATER CLEAR	30	80	30°
L-53ED	ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	12	30	60°
L-53GD	GREEN (GaP)	GREEN DIFFUSED	5	20	60°
L-53GT		GREEN TRANS.	20	50	30°
L-53GC		WATER CLEAR	20	50	30°
L-53YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	5	20	60°
L-53YT		YELLOW TRANS.	20	40	30°
L-53YC		WATER CLEAR	20	40	30°
L-53ND	PURE ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	12	30	60°
L-53NT		ORANGE TRANS.	50	80	30°
L-53NC		WATER CLEAR	50	80	30°
L-53PGD	PURE GREEN (GaP)	GREEN DIFFUSED	2	5	60°
L-53PGT		GREEN TRANS.	5	10	30°
L-53PGC		WATER CLEAR	5	10	30°

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

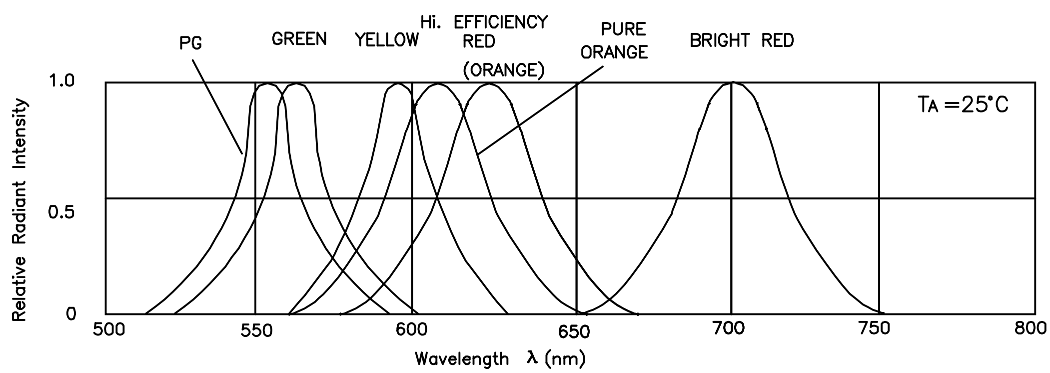
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	700 625 625 565 590 610 555		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	45 45 45 30 35 35 30		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	40 12 12 45 10 15 45		pF	VF=0V;f=1MHz
V_F	Forward Voltage	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	2.0 2.0 2.0 2.2 2.1 2.0 2.25	2.5 2.5 2.5 2.5 2.5 2.6 2.6	V	IF=20mA
I_R	Reverse Current	All	10		uA	VR = 5V

Absolute Maximum Ratings at T_A=25°C

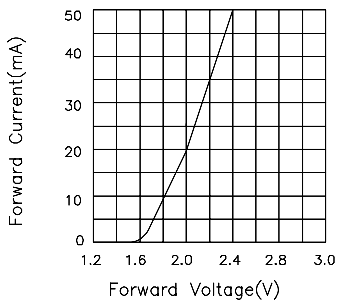
Parameter	Bright Red	High Efficiency Red	Orange	Green	Yellow	Pure Orange	Pure Green	Units
Power dissipation	120	105	105	105	105	105	105	mW
DC Forward Current	25	30	30	25	30	30	25	mA
Peak Forward Current [1]	150	150	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C							
Lead Soldering Temperature [2]	260°C For 5 Seconds							

Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.

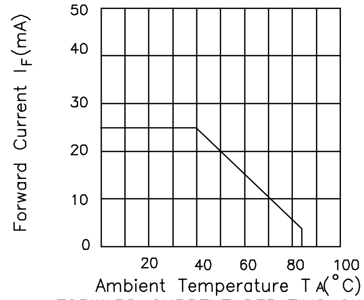


RELATIVE INTENSITY Vs. WAVELENGTH

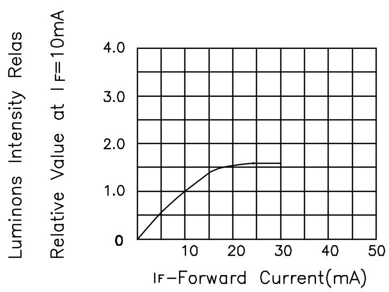
Bright Red L-53HD



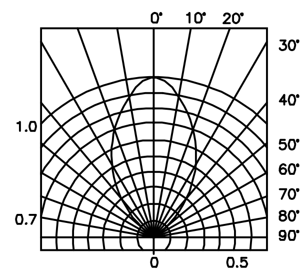
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

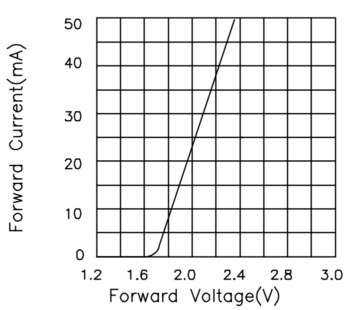


LUMINOUS INTENSITY Vs. FORWARD CURRENT

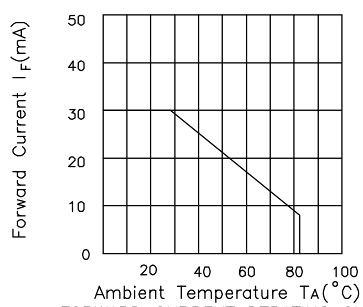


SPATIAL DISTRIBUTION

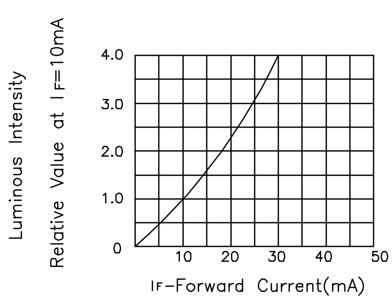
High Efficiency Red L-53ID,L-53IT
Orange L-53ED,L-53EC

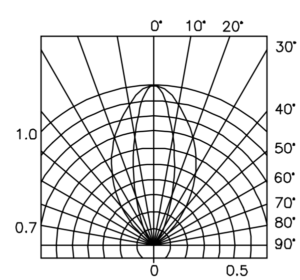


FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

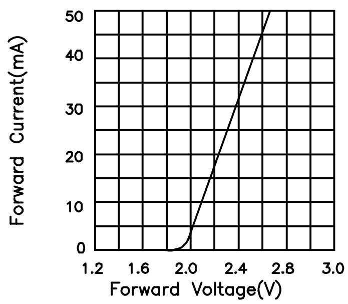


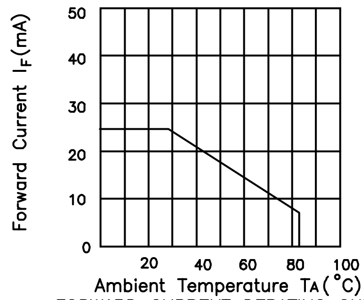


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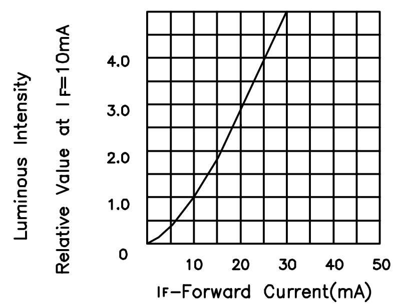
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Green L-53GD,L-53GC,L-53GT

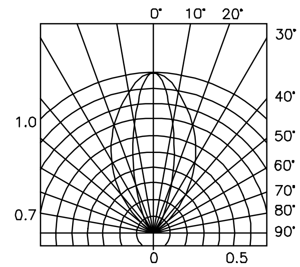




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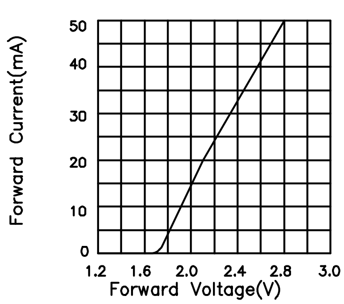


LUMINOUS INTENSITY Vs. FORWARD CURRENT

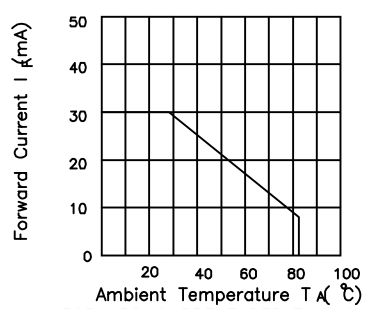


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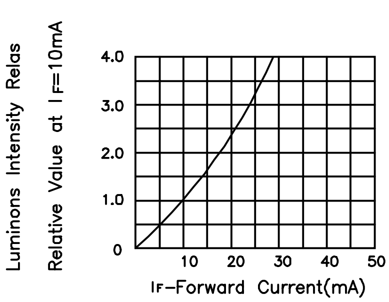
Yellow L-53YD,L-53YC,L-53YT



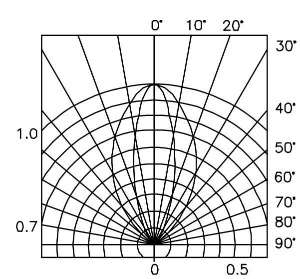
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

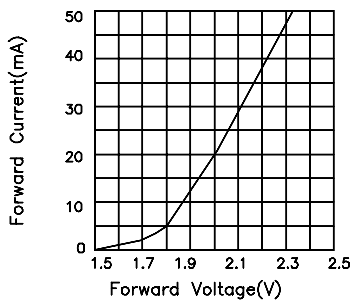


LUMINOUS INTENSITY Vs. FORWARD CURRENT

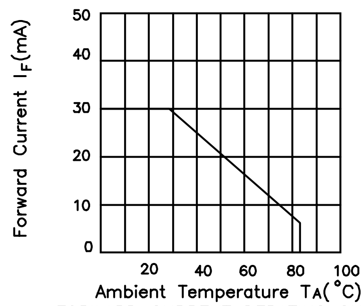


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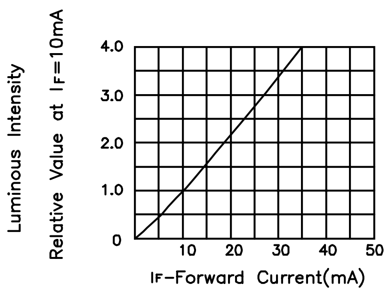
Pure Orange L-53ND,L-53NC,L-53NT



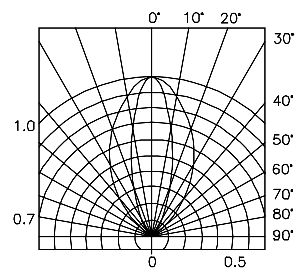
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

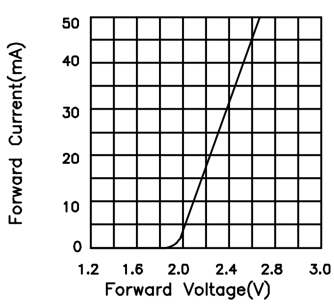


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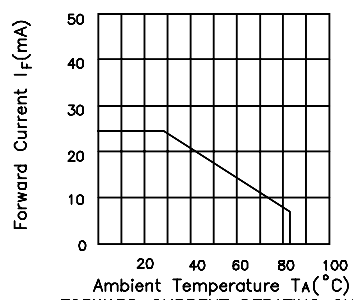


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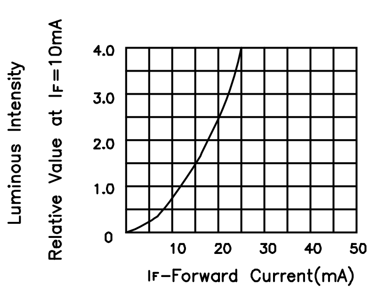
Pure Green L-53PGD,L-53PGC,L-53PGT



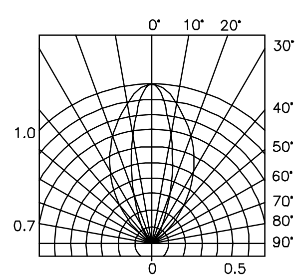
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION